Configuration of Park Air T6 Radios

V5-O-T6CONFIG-EL Issue 1

This module will:

- Describe parameters common to all radio types
- Explain transmitter only parameters
- Explain receiver only parameters
- Describe special features of the radios
- Introduce the browser interface

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Transmitter



Receiver



Transceiver



Common settings

- Volume
- Channel
- Step
- Reference
- Inhibit
- Active
- IP1 - 3
- NM1 – 3
- DG

Volume settings

- Loudspeaker volume 0 to 100 %
- Headset volume 0 to 100 %
- If the loudspeaker is not used, set loudspeaker volume to 0 % before setting the headset volume



Frequency and channel relationship

- The figures shown in the radio front panel display indicate the channel designator and not necessarily the actual frequency
- Channel display is dependant upon channel spacing of either 8.33 kHz or 25 kHz

Frequency and channel relationship

Frequency (MHz)	Channel Spacing (kHz)	Channel Display
118.00000	25	118.000
118.00000	8.33	118.005
118.00083	8.33	118.010
118.01667	8.33	118.015
118.02500	25	118.025
118.02500	8.33	118.030
118.03333	8.33	118.035
118.04167	8.33	118.040
118.05000	25	118.050
118.05000	8.33	118.055

Active auto / manual setting

- Selects Active / Inactive state for use in main / standby switching



Active / Inactive setting

- Selects Active / Inactive state for use in main / standby switching



IP address setting

- Three LAN ports available
- Each port should be on a different networks



Subnet mask setting

- Subnet mask settings for each of the three LAN ports



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Transmitter settings

- RF power
- Mod depth
- Offset
- ALC
- Mute
- Mic
- Side-tone
- Inhibit

RF power setting

- 5 to 50 Watts in 1 Watt steps



Modulation depth setting

- Default 85 %
- 5 % to 95 %

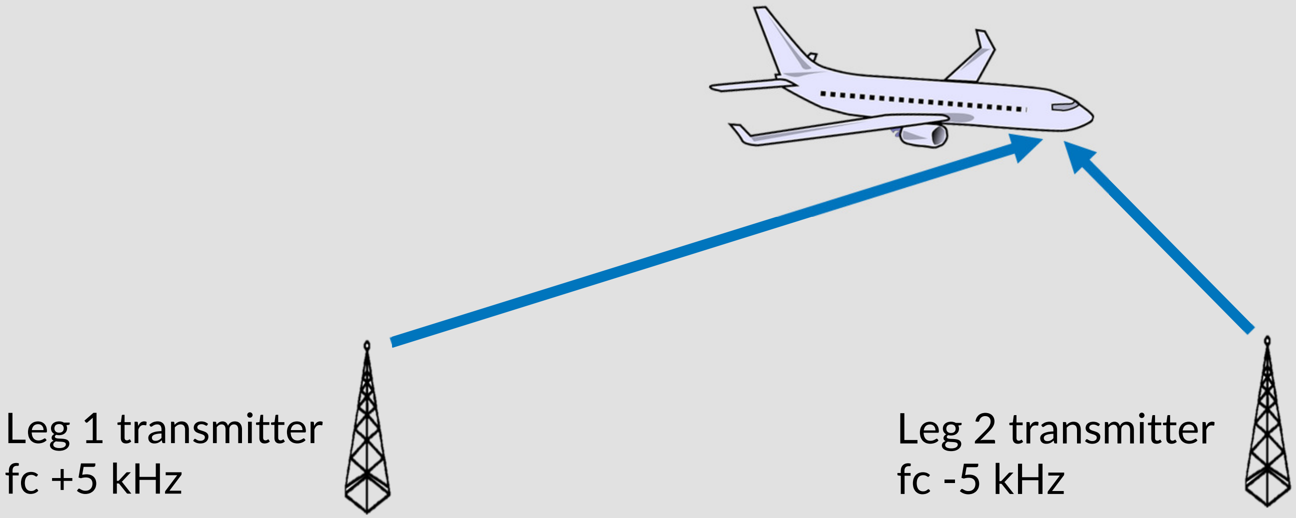


Offset carrier

- Reduces the interference from another transmitter on same frequency
- Interference can appear as a tone
- Offsetting the transmitters takes the interference tone outside the audio band, where it is removed by the audio filters

Offset carrier

- A 2 frequency offset carrier with 25 kHz channel spacing would have offsets of fc +5 kHz and fc -5 kHz



Offset settings

- 2, 3, 4 or 5 offsets at 25 kHz
- 2 offsets at 8.33 kHz spacing



Offset settings

- Frequency offsets managed by ICAO
- Available offsets are shown in the table below

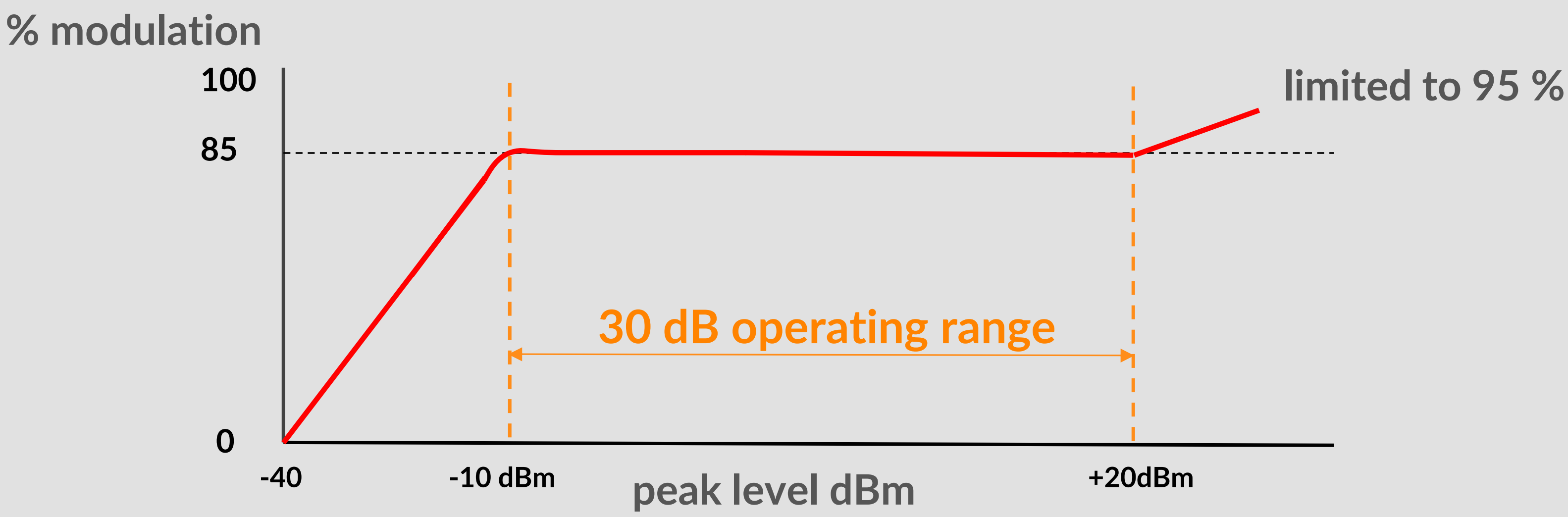
No of Climax Legs	Leg 1 Tx frequency	Leg 2 Tx frequency	Leg 3 Tx frequency	Leg 4 Tx frequency	Leg 5 Tx frequency	Channel spacing
2	f_c + 5 kHz	f_c - 5 kHz	N/A	N/A	N/A	25 kHz
3	f_c + 7.3 kHz	f_c	f_c – 7.3 kHz	N/A	N/A	25 kHz
4	f_c + 7.5 kHz	f_c - 7.5 kHz	f_c + 2.5 kHz	f_c – 2.5 kHz	N/A	25 kHz
5	f_c + 8 kHz	f_c + 4 kHz	f_c	f_c - 4 kHz	f_c - 8 kHz	25 kHz
2	f_c + 2.5 kHz	f_c – 2.5 kHz	N/A	N/A	N/A	8.33 kHz

Automatic level control (ALC)

- Switch ALC ON/OFF
- Default is ON



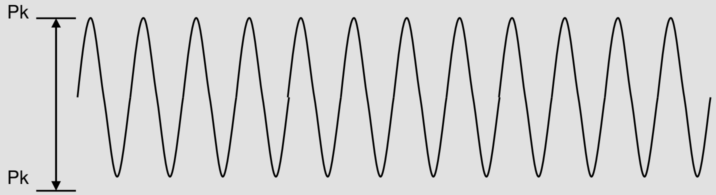
Automatic level control (ALC)



Line level

Signal A, 1 kHz test tone

For a sinewave
the power ratio is
3 dB peak/average



Signal B, speech

For speech
the ratio is typically
13 dB peak/average

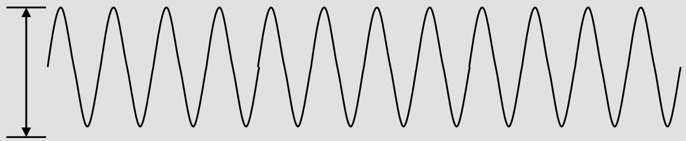


Difference in
average power
of approx. 10 dB

Line level

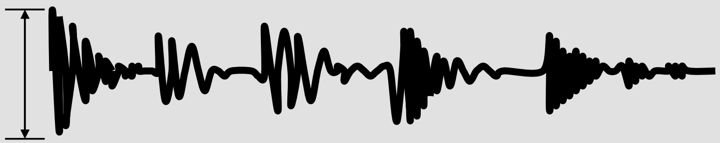
Peak level values are the same for both signals

Peak level is -10dBm
Average level is -13dBm



Signal A, 1kHz test tone

If the peak is -10dBm
Average level is -23dBm



Signal B, speech

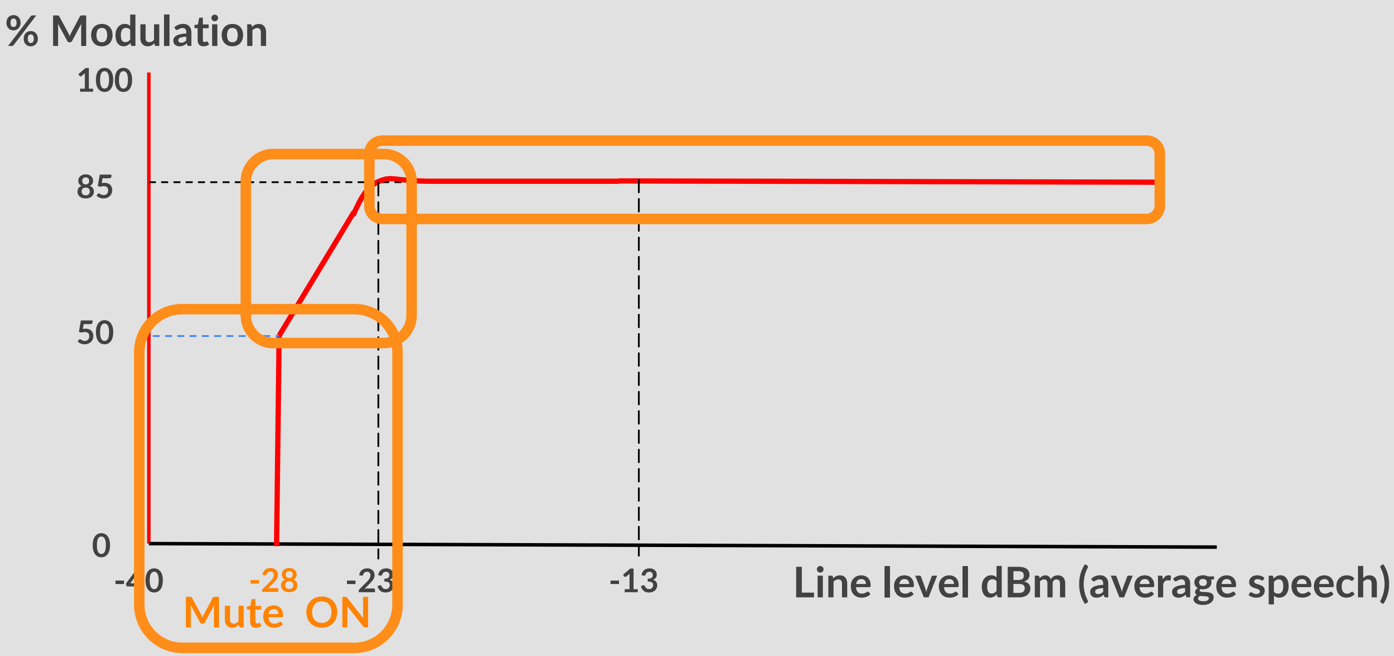
Mute

- Mutes audio if it is more than 15 dB below the set line level
- Default is ON



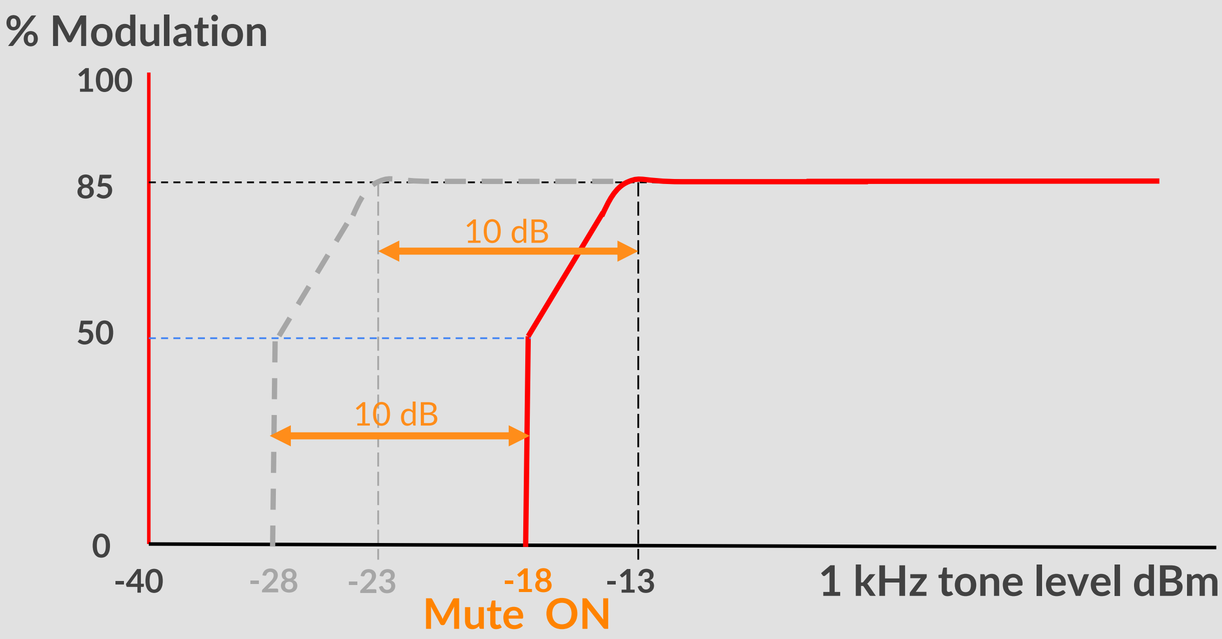
Mute level with speech

Radio settings line level of -13 dBm and 85 % modulation depth with ALC on



Mute measurement with test tone

Radio settings line level of -13 dBm and 85 % modulation depth with ALC on



Microphone type

- Passive
- Active



Sidetone

- Operator's own voice fed back to the headset
- High or Low setting



Inhibit

- Prevents PTT if Inhibit is selected



Transmitter keying

- Front Panel / Local PTT
  - Front panel PTT button
  - Front panel microphone PTT
- Rear Panel / Remote PTT
  - Audio connector phantom PTT
  - Audio connector PTT input
  - Audio connector tone keying
  - E1 network PTT conforming to ICD-T6-004/ICD-T6-002
  - VoIP PTT complying with ED137 on LAN1/LAN2/LAN3

Transmit timeout

- Prevents an operator blocking a channel
- Timeout must be disabled for ATIS

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Receiver settings

- Audio AGC
- Squelch Level
- Squelch Type



Audio AGC

- On or Off
- Default is On
- Only set to Off during maintenance



Squelch level

- -114 to -60 dBm
- Default setting is -107 dBm



Squelch types

- S/N (default setting)
- Carrier
- Override



Configuration of Park Air T6 Radios

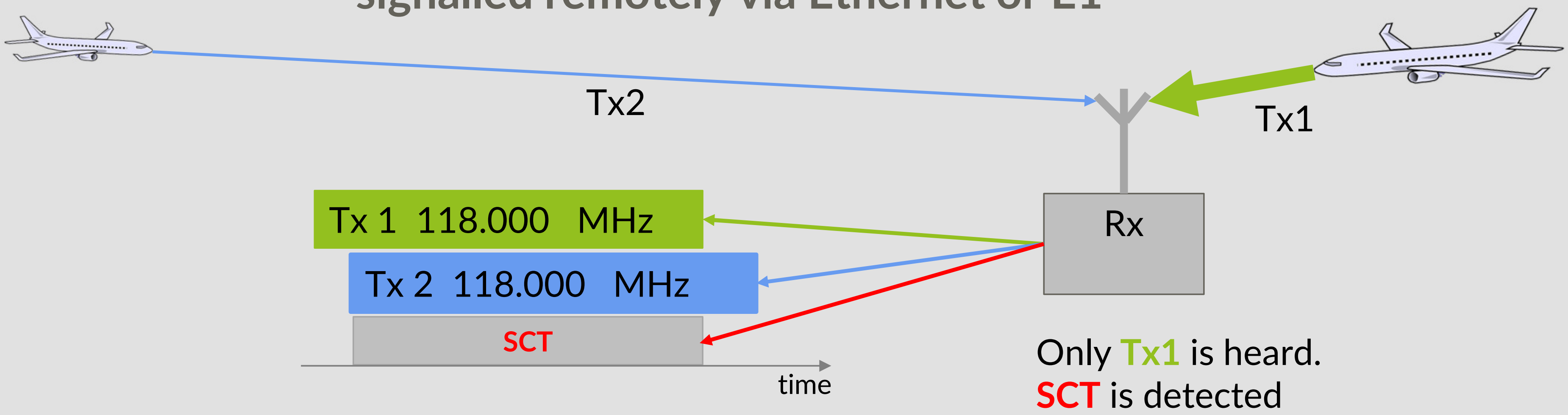
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Simultaneous call transmission (SCT) detection

- Two transmissions on the same frequency at the same time, and the weaker signal is not heard
- When a simultaneous call is detected, an audio notification tone can be added to the received audio, and notification is signalled remotely via Ethernet or E1

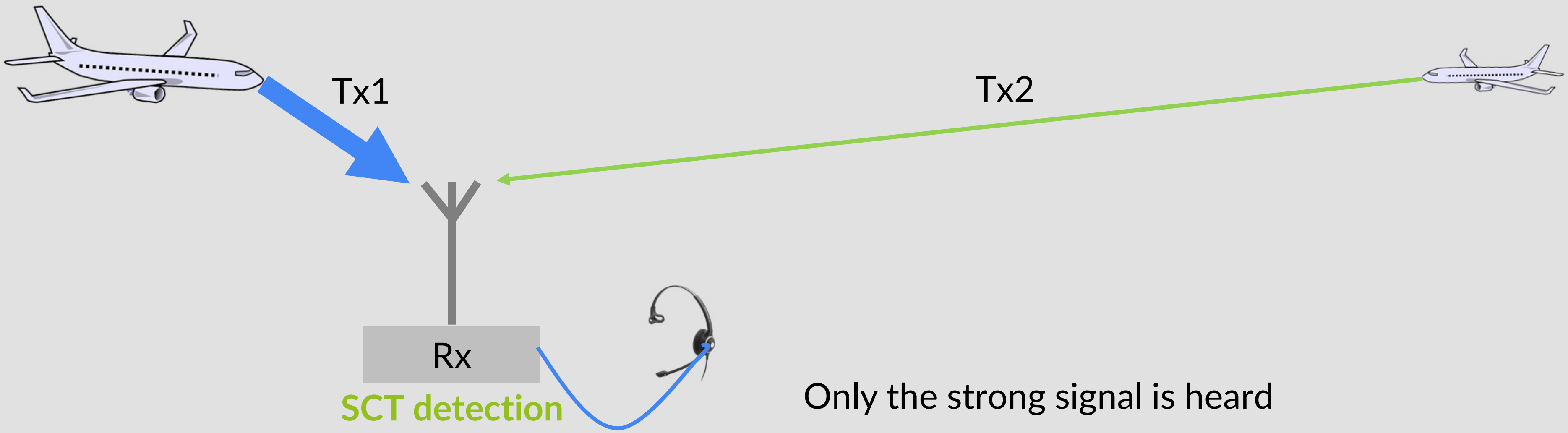


SCT detection configuration

- Set to On or Off
- Configured using the browser
- Sensitivity set to low, medium or high
- Audio SCT notification tone set to On or Off

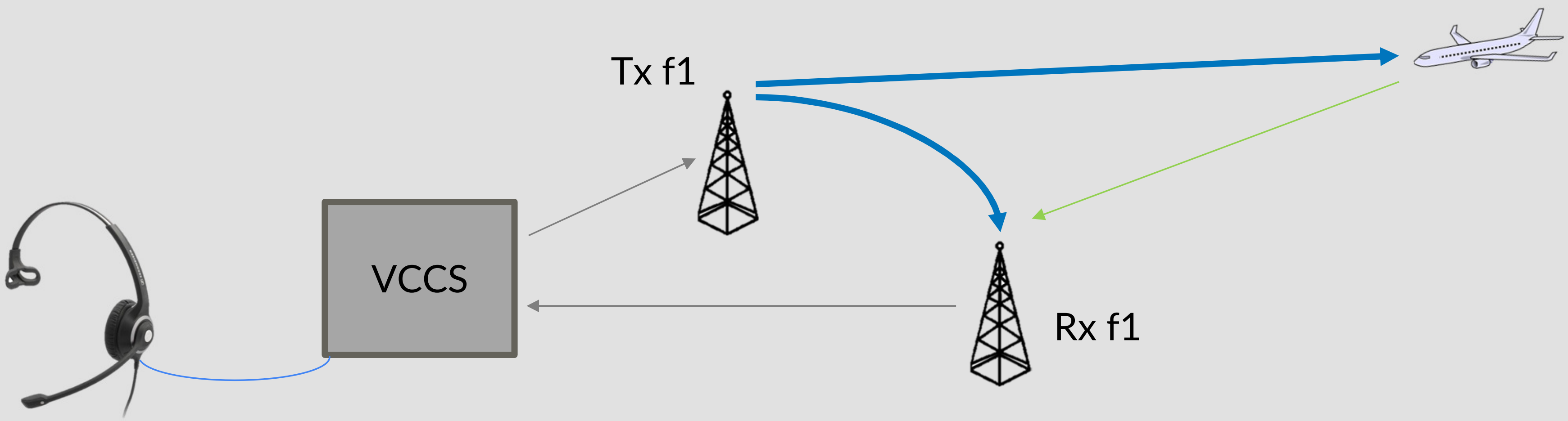
SCT detection scenario 1

- Two aircraft transmissions are received; one signal is strong, the other is weaker
- The weaker signal is dominated by strong signal in the receiver, and the controller only hears one transmission
- SCT is detected in the receiver



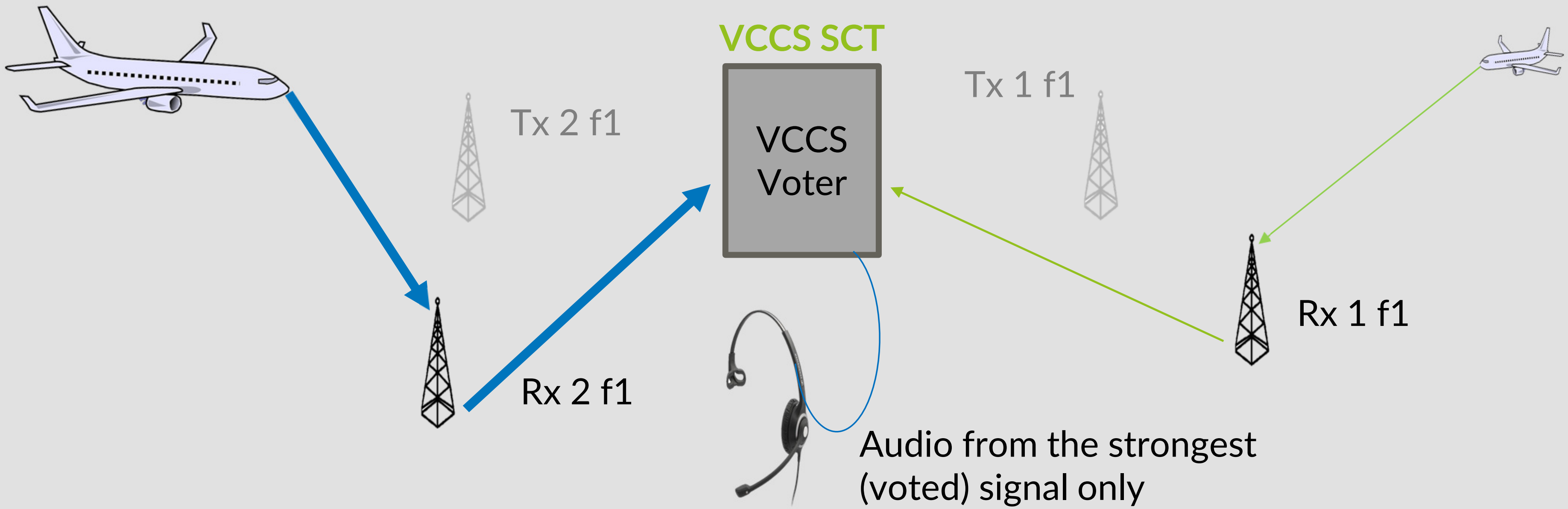
SCT detection scenario 2

- Aircraft calls as controller transmits
- Strong sidetone masks the weak receive audio



SCT detection scenario 3

- Two transmissions detected by two receiver sites
- Best signal voting within VCCS rejects weakest signal
- Controller only hears one call

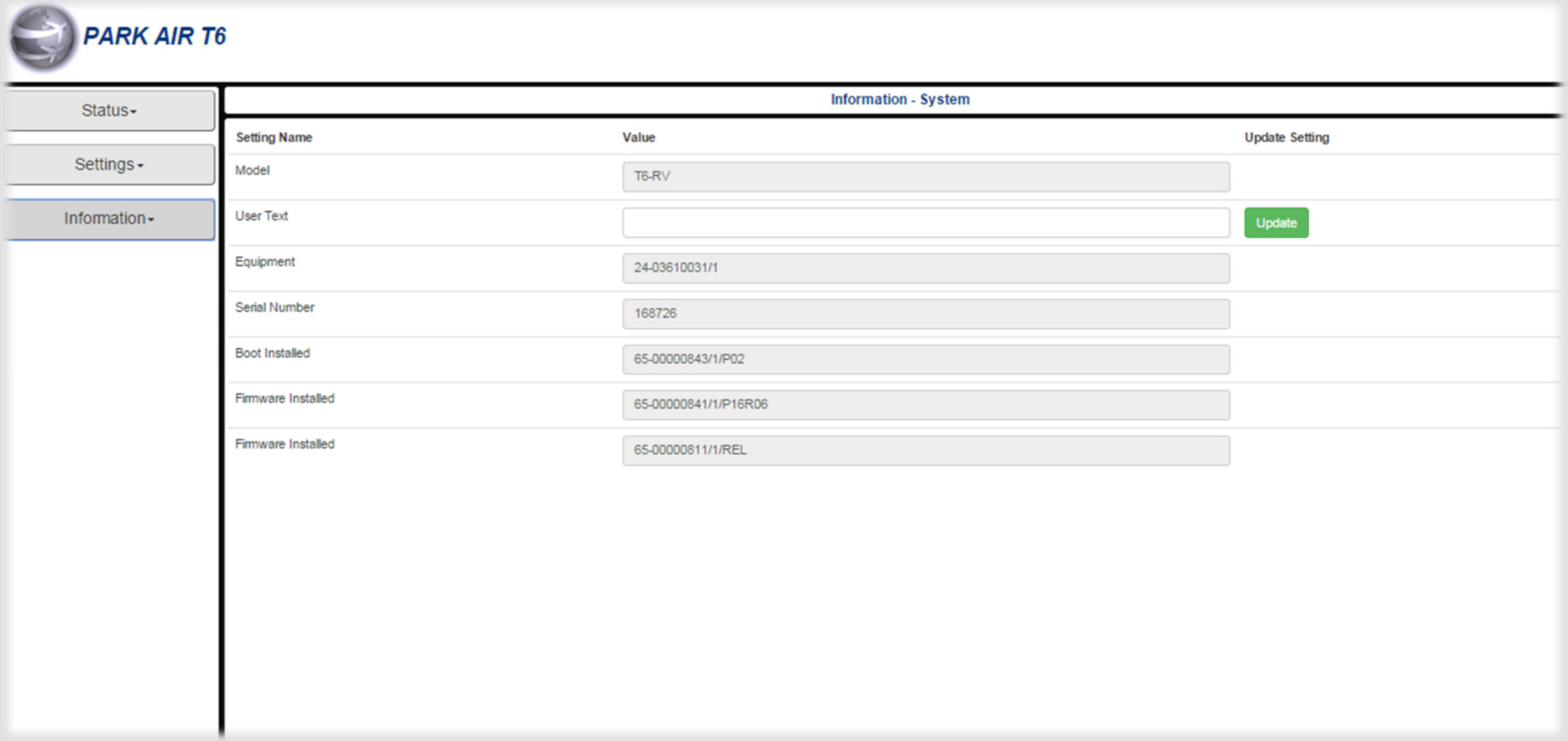


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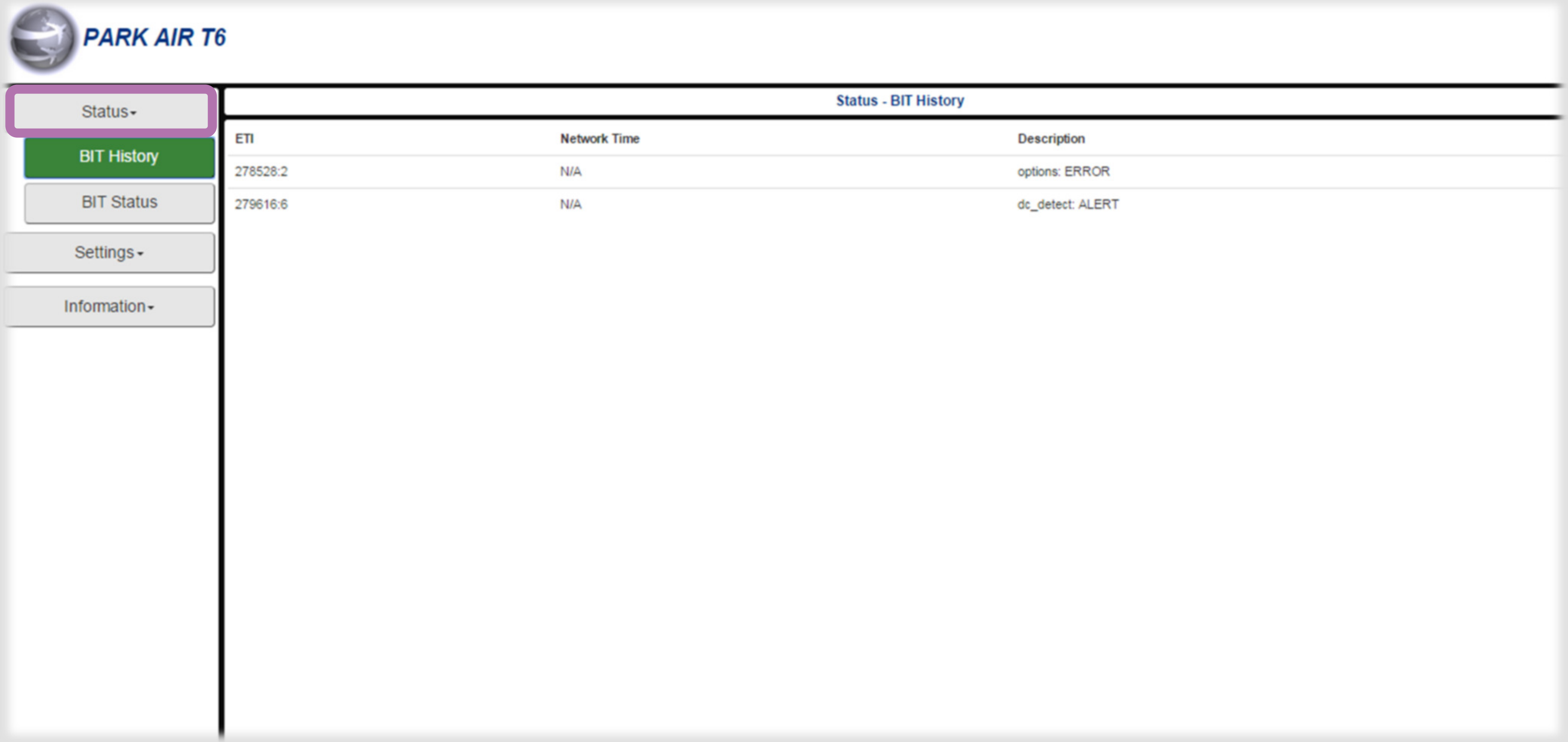
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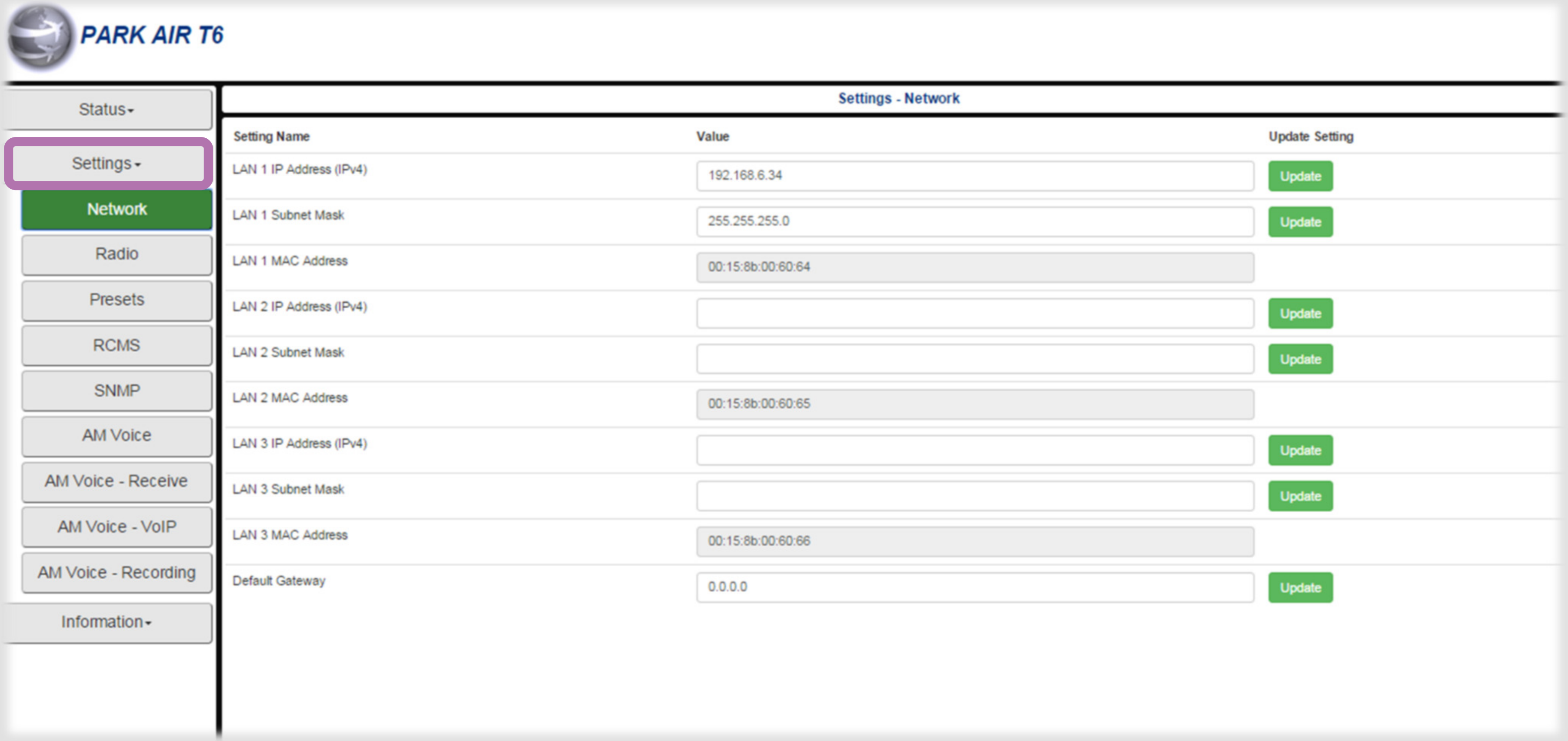
Browser menu



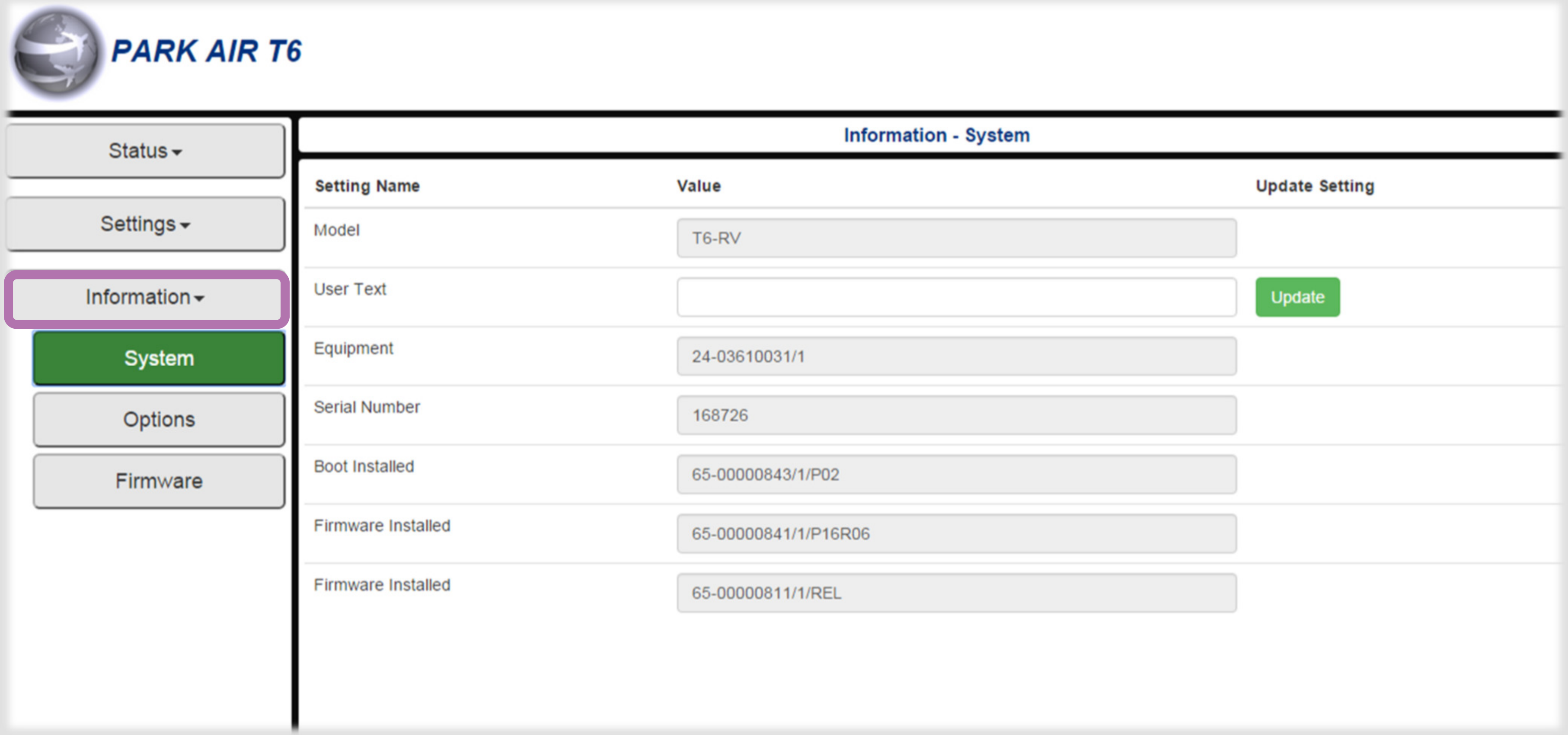
Status


PARK AIR T6
Status
BIT History
BIT Status
Settings
Information
Status - BIT History
ETI
Network Time
Description
278528:2
N/A
options: ERROR
279616:6
N/A
dc_detect: ALERT

Settings


PARK AIR T6
Status
Settings
Network
Radio
Presets
RCMS
SNMP
AM Voice
AM Voice - Receive
AM Voice - VoIP
AM Voice - Recording
Information
Settings - Network
Setting Name
Value
Update Setting
LAN 1 IP Address (IPv4)
192.168.6.34
Update
LAN 1 Subnet Mask
255.255.255.0
Update
LAN 1 MAC Address
00:15:8b:00:60:64
LAN 2 IP Address (IPv4)
Update
LAN 2 Subnet Mask
Update
LAN 2 MAC Address
00:15:8b:00:60:65
LAN 3 IP Address (IPv4)
Update
LAN 3 Subnet Mask
Update
LAN 3 MAC Address
00:15:8b:00:60:66
Default Gateway
0.0.0.0
Update

Information



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